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SOME CONDITIONS AFFECTING PROBLEMS OF INDUSTRIAL EDUCATION IN 78 AMERICAN SCHOOL SYSTEMS

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Some Conditions Affecting Problems of Industrial Education in 78 American School Systems

During the closing weeks of the school year 1912–1913, the Division of Education of the Sage Foundation undertook an investigation in coöperation with the superintendents of schools of some 78 American city school systems. The study included all of the cities of between 25,000 and 200,000 population which were not so suburban in character as to be in reality subsidiaries of larger cities and in which the school authorities were able to coöperate. The object of the investigation was to gather facts concerning the boys in these cities who had reached the limit of the compulsory attendance period and the fathers of these boys. The purpose of this study was to secure a more definite fact basis for thought and action in the field of industrial education. Data for girls were not included for the reason that 13 year old girls are in the main distributed through the same grades as are 13 year old boys and the occupations of their fathers are in the long run identical with those of the fathers of the boys. Hence the study would have produced the same results if data for girls had been included and would have entailed nearly twice as much work.

In each case the results were secured for all of the 13-year-old boys in the public schools of these cities at the date when the facts were gathered. The aggregate number of cases studied was 22,027. The facsimile on page 4 shows the type of card used to gather the original data.

These cards were supplied by the Division of Education of the Foundation. The data were gathered by the local school authorities and the results were tabulated by the Foundation. In cities having separate schools for white and colored children, the data were gathered for the white boys and their fathers only.

Thirteen-Year-Old Boys in Every Grade from Kindergarten through High School

The first data secured were those showing the school grades of the boys. The tabulation of these figures brought to light two

significant facts. The first was that these boys who have reached the limit of the compulsory attendance period are scattered through the grades from the kindergarten to the senior year in the high school. Although they are all of the same age, they represent every stage of school advancement and are scattered through grades normally representing thirteen years of school progress,—one of the kindergarten, eight of the grades, and four of the high school.

MIGRATION—OCCUPATION—PROGRESS STUDY, 1913

RECORD FOR BOYS 13 YEARS OLD (AT LAST BIRTHDAY)

NAME OF BOY_____ GRADE_____

WAS HE BORN IN THIS CITY?_____ IN THIS STATE?_____ IN THE U. S.?_____

WAS HIS FATHER (OR GUARDIAN) BORN IN THIS CITY?____ IN THIS STATE?____ IN U. S.?____

WHAT IS HIS FATHER'S (OR GUARDIAN'S) OCCUPATION?_____

_____

(STATE IF POSSIBLE BUSINESS AS WELL AS OCCUPATION, FOR EXAMPLE, "CONDUCTOR ON STREET RAILWAY," "CLERK IN SHOE STORE," "MACHINE OPERATOR IN BOX FACTORY.")

SCHOOL_____ TEACHER_____

Half of the Boys in Sixth Grade or Below

The second significant fact is that one-half of them are in the 6th grade or below. Since previous studies of retardation among school children have shown that the children who drop out of school earliest are largely those who are seriously retarded and find themselves in the lower grades at relatively advanced ages, these facts are most important. They indicate that large numbers of these boys may be expected to leave school soon and go to work with an educational preparation so inadequate that they cannot enter the ranks of industry with profit either to themselves or to the community. If we reduce our original figures showing the grade distributions of these 22,027 boys to relative figures indicating conditions among each 10,000 boys, we have the figures shown in Table 1.

TABLE 1. GRADE DISTRIBUTION OF BOYS. RELATIVE FIGURES SHOWING BOYS IN EACH GRADE AMONG EACH 10,000 BOYS

Grade	Boys in each grade	Boys in and below each grade
Special and kindergarten	92	92
1	25	117
2	76	193
3	316	509
4	944	1,453
5	1,814	3,267
6	2,493	5,760
7	2,507	8,267
8	1,441	9,708
High School		
I	243	9,951
II	28	9,979
III	15	9,994
IV	6	10,000
Total	10,000	10,000

These figures which show the grades of the children who have reached the limit of the compulsory attendance period constitute one of the simplest and most significant measures of the efficiency of the city school system in carrying its children through the grades. If, upon reaching the age of 13 years, a large proportion have nearly or quite completed the elementary course, we know the system is so administered as to insure the completion of a common school education for a large proportion of the children. If, on the other hand, considerable numbers of children at the end of the compulsory attendance period are still in the lower grades, we may be sure that most of them will drop out of school without staying to finish the course. According to the conventional standards for measuring retardation, the child who is 13 years of age is considered to be in his normal grade if he is in the 7th grade or above, and to be retarded if he is in the 6th grade or below. If then we compute for each of our 78 cities the per cent of 13 year old boys who are in the 7th grade or above, we have an important index of one phase of the efficiency of their school systems. This comparison shows the results presented in Table 2.

What Some Cities Have Done, Others May Do

Table 2 impressively illustrated the wide range of conditions in city school systems. At one extreme we have Aurora, Ill., and

TABLE 2. PER CENT OF BOYS IN AND ABOVE THE SEVENTH GRADE

City	Per cent of boys in and above seventh grade	City	Per cent of boys in and above seventh grade
1. Brockton, Mass.	77	40. Madison, Wis.	44
2. Aurora, Ill. (East)	73	41. Canton, O.	44
3. Kalamazoo, Mich.	64	42. Superior, Wis.	44
4. Waterloo, Iowa	63	43. Columbus, O.	44
5. Scranton, Pa.	62	44. Reading, Pa.	42
6. Decatur, Ill.	61	45. Harrisburg, Pa.	42
7. Aurora, Ill. (West)	60	46. Williamsport, Pa.	41
8. Holyoke, Mass.	59	47. Niagara Falls, N. Y.	40
9. Racine, Wis.	57	48. Albany, N. Y.	40
10. Newport, R. I.	57	49. Hazelton, Pa.	39
11. Mobile, Ala.	57	50. South Bend, Ind.	38
12. Amsterdam, N. Y.	54	51. Troy, N. Y.	38
13. Rockford, Ill.	54	52. Hamilton, O.	38
14. Davenport, Iowa	54	53. Atlanta, Ga.	37
15. Pittsfield, Mass.	54	54. Pueblo, Colo. (Dist. 1)	36
16. Paterson, N. J.	53	55. Lincoln, Neb.	36
17. Saginaw, Mich. (West)	52	56. Chattanooga, Tenn.	36
18. Lancaster, Pa.	52	57. Bay City, Mich.	35
19. Dubuque, Iowa	51	58. New Bedford, Mass.	34
20. York, Pa.	51	59. Portland, Me.	34
21. Evansville, Ind.	51	60. Manchester, N. H.	34
22. Norwich, Ct.	50	61. Fall River, Mass.	34
23. Auburn, N. Y.	50	62. Johnstown, Pa.	33
24. Utica, N. Y.	49	63. Nashville, Tenn.	33
25. Springfield, O.	49	64. Youngstown, O.	33
26. Syracuse, N. Y.	49	65. New Britain, Ct.	33
27. San Diego, Cal.	49	66. Danville, Ill.	32
28. Chicopee, Mass.	49	67. Galveston, Tex.	32
29. Tacoma, Wash.	49	68. Trenton, N. J.	31
30. Meriden, Ct.	49	69. Pueblo, Colo. (Dist. 20)	28
31. Elmira, N. Y.	47	70. Woonsocket, R. I.	24
32. Springfield, Mo.	47	71. Richmond, Va.	24
33. Saginaw, Mich. (East)	46	72. Norfolk, Va.	21
34. Waterbury, Ct.	45	73. Lansing, Mich.	21
35. Joliet, Ill.	45	74. Birmingham, Ala.	20
36. Council Bluffs, Iowa	45	75. Columbia, S. C.	18
37. Flint, Mich.	45	76. Charleston, S. C.	18
38. Binghamton, N. Y.	45	77. Bridgeport, Ct.	16
39. South Omaha, Neb.	44	78. Portsmouth, Va.	12

Brockton, Mass., with more than 70 per cent. of their 13 year old boys in the 7th grade or above, while at the other extreme we find, Columbia, S. C., Charleston, S. C., Bridgeport, Ct., and Portsmouth, Va., with less than 20 per cent above the 7th grade. The contrast between the cities at the two extremes of the table shows that in Brockton almost 8 boys out of every 10 are within sight of completing the common school course, while in Ports-

mouth scarcely more than 1 in 10 shows the same advance. From the point of view of industrial education these conditions are of the greatest importance.

They indicate that in many cities the problem of securing a reasonably complete elementary schooling for all the children is far more pressing than that of instituting specialized industrial training. They show too that since this has been accomplished by some of the cities, it may be hopefully undertaken by all.

Only One Father in Six Now Lives Where He Was Born

The data giving the birthplaces of the boys and their fathers show that only about one father in six is now living in the city of his birth and that among the boys only a few more than one-half are now living where they were born. These facts are significant because it is often urged that the schools should develop courses of industrial education that will directly prepare the children to enter the local industries. But if present conditions maintain in the future the great majority of adults are not going to work in the same communities in which they received their schooling.

The facts as to the birthplaces of the boys and their fathers among the 22,027 cases studied are shown in Table 3.

TABLE 3. BIRTHPLACES OF BOYS AND BIRTHPLACES OF THEIR FATHERS

Birthplace	BOYS		FATHERS	
	Number	Per cent	Number	Per cent
Same city	12,699	58	3,601	16
Same state but not same city	4,233	19	5,349	24
Other state in United States	3,069	14	4,364	20
Foreign country	2,026	9	8,713	40
Total	22,027	100	22,027	100

This table shows that even among American born fathers the number now living in the cities where they were born includes only about one in four, while among the boys the proportion is only about three in five. While this is true for the group as a whole, the figures for the different cities show wide variations. The ranges, together with the figures for each city, are shown in Table 4.

TABLE 4. PER CENT OF BOYS LIVING IN CITY OF BIRTH AND PER CENT OF THEIR FATHERS LIVING IN CITY OF BIRTH

City	Number of cases	PER CENT LIVING IN CITY OF BIRTH	
		Fathers	Boys
Albany, N. Y.	468	39	71
Amsterdam, N. Y.	129	13	64
Atlanta, Ga.	583	14	53
Auburn, N. Y.	101	24	62
Aurora, Ill. (East Side)	100	12	50
Aurora, Ill. (West Side)	57	19	53
Bay City, Mich.	203	13	61
Binghamton, N. Y.	182	14	63
Birmingham, Ala.	451	7	46
Bridgeport, Ct.	704	9	55
Brockton, Mass.	333	11	68
Canton, O.	291	16	47
Charleston, S. C.	115	51	71
Chattanooga, Tenn.	103	5	37
Chicopee, Mass.	166	8	51
Columbia, S. C.	58	7	35
Columbus, O.	876	15	50
Council Bluffs, Iowa	187	9	56
Danville, Ill.	184	11	39
Davenport, Iowa	280	25	60
Decatur, Ill.	162	13	41
Dubuque, Ill.	98	21	72
Elmira, N. Y.	167	12	56
Evansville, Ind.	277	24	63
Fall River, Mass.	801	13	72
Flint, Mich.	210	8	21
Galveston, Tex.	141	20	69
Hamilton, O.	176	20	59
Harrisburg, Pa.	402	19	55
Hazelton, Pa.	161	19	62
Holyoke, Mass.	299	7	61
Johnstown, Pa.	317	26	69
Joliet, Ill.	262	10	63
Kalamazoo, Mich.	184	9	44
Lancaster, Pa.	214	34	64
Lansing, Mich.	164	9	35
Lincoln, Neb.	178	2	37
Madison, Wis.	140	14	49
Manchester, N. H.	277	11	62
Meriden, Ct.	194	16	70
Mobile, Ala.	198	29	50
Nashville, Tenn.	396	22	63
New Bedford, Mass.	689	9	52
New Britain, Ct.	248	7	51
Newport, R. I.	145	30	79
Niagara Falls, N. Y.	161	12	47
Norfolk, Va.	296	18	54
Norwich, Ct.	141	21	52
Paterson, N. J.	897	17	68
Pittsfield, Mass.	242	12	42
Portland, Me.	307	17	61

TABLE 4. PER CENT OF BOYS LIVING IN CITY OF BIRTH AND PER CENT OF THEIR FATHERS LIVING IN CITY OF BIRTH—(*Continued*)

City	Number of cases	PER CENT LIVING IN CITY OF BIRTH	
		Fathers	Boys
Portsmouth, Va.	101	39	72
Pueblo, Colo. (Dist. 1)	118	1	25
Pueblo, Colo. (Dist. 20)	118	3	39
Racine, Wis.	234	13	60
Reading, Pa.	575	38	72
Richmond, Va.	461	32	71
Rockford, Ill.	315	10	64
San Diego, Cal.	291	1	13
Saginaw, Mich. (East Side)	183	15	60
Saginaw, Mich. (West Side)	130	24	63
Scranton, Pa.	659	23	78
South Bend, Ind.	265	9	47
South Omaha, Neb.	151	..	48
Springfield, Mo.	94	9	43
Springfield, O.	344	13	46
Superior, Wis.	173	1	64
Syracuse, N. Y.	676	20	65
Tacoma, Wash.	415	..	35
Trenton, N. J.	484	19	65
Troy, N. Y.	276	33	78
Utica, N. Y.	427	16	57
Waterbury, Ct.	416	12	63
Waterloo, Iowa (West Side)	59	5	25
Williamsport, Pa.	181	24	65
Woonsocket, R. I.	199	7	50
York, Pa.	333	35	64
Youngstown, O.	234	10	48
Total	22,027	16	58

INDUSTRIES IN WHICH THE FATHERS WORK

The returns of the investigation showed for each of the fathers the nature of the trade or business in which he was engaged and also what kind of work he was doing in that trade or business. This made possible a double classification of the data, first by industries and second by occupations within the industries. The industrial classification was the one adopted by the United States Census Bureau and included the following five main divisions:

I. Industries of Extraction—Agriculture, Forestry, Mining, etc.

II. Industries of Transformation—Building Trades, Manufacturing, etc.

III. Industries of Transportation and Communication—Railroads, Telegraph, etc.

IV. Industries of Trade—Wholesale and Retail Trade, Real Estate, etc.

V. Service—Government, Professional, Domestic, Personal, etc.

The tabulations showed that the fathers were distributed in these five main industrial divisions as shown in Table 5.

TABLE 5. INDUSTRIAL DISTRIBUTION OF FATHERS

Industrial group	FATHERS	
	Number	Per cent
Extraction	754	3.5
Transformation	10,934	51.6
Transportation	2,774	13.1
Trade	4,129	19.5
Service	2,597	12.3
Total	21,188	100.0
Retired, not stated or none	839	
Grand Total	22,027	

Only Half of the Fathers Work in Building Trades or Manufacturing

One fact, shown in Table 5, is that only about one-half of these men are found in the Industries of Transformation which include the building trades and all classes of manufacturing. This is important because plans for inaugurating systems of vocational education are commonly based on the proposition that a large majority of the young people in our city schools will find their life-work in these industries.

Another important fact is that the distribution of these men in these industrial groups is different from the corresponding figures for male workers in the country as a whole or in all American cities. The chief reason for this is that we are here dealing with adult men of sufficient maturity and stability of position in their communities to be fathers of 13-year-old boys in the public schools. The group includes no very young or very old men, few recent immigrants, few floaters, and few chronic ne'er-do-wells.

It is because of these characteristics that it furnishes facts which seem of unusual significance in the attempt to foresee what sorts of life work the young people now in city schools may be expected to go into.

The variations between the different cities in the proportions of the men engaged in the five industrial classes are so great that each city is characteristically different from all the rest and no one shows even approximately the conditions indicated by the averages for the entire group. The degree to which this is true may be judged from the figures in Table 6. Since there are 78 cities, the 40th has in each case been taken as the middle one.

TABLE 6. PER CENT OF FATHERS IN EACH INDUSTRIAL GROUP IN CITIES HAVING RESPECTIVELY THE LOWEST, MIDDLE, AND HIGHEST PER CENTS IN EACH GROUP

Industrial group	LOWEST		MIDDLE		HIGHEST	
	City	Per cent of fathers in each group	City	Per cent of fathers in each group	City	Per cent of fathers in each group
Extraction	Harrisburg	..	Rockford	3	Hazelton	34
Transformation ...	Galveston	20	Aurora	51	Chicopee	78
Transportation ...	New Britain	4	Youngstown	12	Harrisburg	33
Trade.....	Chicopee	6	Trenton	18	Columbia	45
Service	Chicopee	4	Danville	11	Newport	23

Table 7 gives the percentages of fathers in each industrial group for all of the 78 cities. Where these percentages do not add to 100 per cent, it is because the figures for the group entitled, "Retired, not stated, or none," have been omitted.

TABLE 7. PER CENT OF FATHERS IN EACH INDUSTRIAL GROUP

City	PER CENT OF FATHERS IN				
	Extraction	Transformation	Transportation	Trade	Service
Albany, N. Y.....	1	38	18	21	16
Amsterdam, N. Y.....	5	63	5	16	8
Atlanta, Ga.....	1	32	18	32	16
Auburn, N. Y.....	3	52	11	20	11
Aurora, Ill. (East Side).....	2	63	10	12	8
Aurora, Ill. (West Side).....	5	51	9	19	9
Bay City, Mich.....	14	42	16	14	12

TABLE 7. PER CENT OF FATHERS IN EACH INDUSTRIAL GROUP—(*Continued*)

City	PER CENT OF FATHERS IN				
	Extraction	Transformation	Transportation	Trade	Service
Binghamton, N. Y.	3	49	19	19	9
Birmingham, Ala.	3	34	20	31	10
Bridgeport, Ct.	2	61	7	18	11
Brockton, Mass.	2	63	7	14	12
Canton, O.	2	60	9	17	8
Charleston, S. C.	4	22	23	41	9
Chattanooga, Tenn.	2	32	14	33	17
Chicopee, Mass.	2	78	8	6	4
Columbia, S. C.	3	26	12	45	14
Columbus, O.	1	46	15	20	13
Council Bluffs, Ia.	2	36	23	19	14
Danville, Ill.	12	34	18	16	11
Davenport, Ia.	3	42	12	20	19
Decatur, Ill.	10	41	14	17	16
Dubuque, Ia.	7	46	11	20	10
Elmira, N. Y.	5	39	19	21	13
Evansville, Ind.	8	46	9	22	13
Fall River, Mass.	2	59	8	17	12
Flint, Mich.	3	58	14	15	8
Galveston, Tex.	2	20	20	31	22
Hamilton, O.	3	55	6	17	12
Harrisburg, Pa.	..	34	33	17	13
Hazelton, Pa.	34	22	13	18	6
Holyoke, Mass.	1	66	6	13	12
Johnstown, Pa.	5	56	10	14	9
Joliet, Ill.	3	53	21	12	9
Kalamazoo, Mich.	5	55	11	17	8
Lancaster, Pa.	2	53	12	22	9
Lansing, Mich.	4	63	7	17	8
Lincoln, Neb.	1	25	19	31	21
Madison, Wis.	1	43	14	20	19
Manchester, N. H.	3	57	9	17	13
Meriden, Ct.	7	62	7	13	8
Mobile, Ala.	3	26	23	31	13
Nashville, Tenn.	1	37	17	26	15
New Bedford, Mass.	4	61	5	14	13
New Britain, Ct.	3	67	4	19	6
Newport, R. I.	11	33	11	19	23
Niagara Falls, N. Y.	1	61	9	11	14
Norfolk, Va.	2	31	17	33	14
Norwich, Ct.	6	55	9	19	11
Paterson, N. J.	..	66	8	14	10
Pittsfield, Mass.	6	58	8	16	8
Portland, Me.	1	38	18	25	12
Portsmouth, Va.	..	56	8	27	10
Pueblo, Colo. (Dist. 1)	4	37	18	23	16
Pueblo, Colo. (Dist. 20)	3	54	21	11	9
Racine, Wis.	2	65	11	12	7
Reading, Pa.	1	57	14	14	10
Richmond, Va.	1	45	18	21	13
Rockford, Ill.	3	71	8	12	6
San Diego, Cal.	6	38	9	21	21

TABLE 7. PER CENT OF FATHERS IN EACH INDUSTRIAL GROUP—(*Continued*)

City	PER CENT OF FATHERS IN				
	Extraction	Transformation	Transportation	Trade	Service
Saginaw, Mich. (East Side)	7	43	15	22	9
Saginaw, Mich. (West Side)	14	48	15	15	7
Scranton, Pa.	25	28	13	17	11
South Bend, Ind.	1	58	13	18	10
South Omaha, Neb.	..	47	11	13	9
Springfield, Mo.	5	37	14	27	16
Springfield, O.	3	51	7	14	13
Superior, Wis.	2	34	17	30	13
Syracuse, N. Y.	1	52	11	21	13
Tacoma, Wash.	3	45	16	18	13
Trenton, N. J.	1	58	11	18	11
Troy, N. Y.	2	49	12	20	14
Utica, N. Y.	2	50	12	20	10
Waterbury, Ct.	1	64	8	12	12
Waterloo, Ia. (West Side)	3	49	12	25	7
Williamsport, Pa.	2	51	18	13	10
Woonsocket, R. I.	1	61	8	15	13
York, Pa.	1	55	13	15	10
Youngstown, O.	..	62	12	13	10

OCCUPATIONS OF FATHERS

The occupational classification of these workers was made under six heads, of which the first three relate to occupations primarily manual in nature, while the remaining three groups are primarily mental.

TABLE 8. OCCUPATIONAL DISTRIBUTION OF FATHERS

Occupational group	FATHERS	
	Number	Per cent
Manual		
Unskilled laborers	785	3.7
Semi-skilled laborers and machine operatives	4,621	21.8
Artisans and foremen	8,490	40.1
Total Manual	**13,896**	**65.6**
Mental		
Clerks and salesmen	1,883	8.9
Managers, superintendents, and proprietors	4,562	21.6
Professional and financial workers	847	3.9
Total Mental	**7,292**	**34.4**
Total Manual and Mental	**21,188**	**100.0**
Retired, not stated or none	839	
Grand total	**22,027**	

One-third in Head Work; Two-thirds in Hand Work

Three significant facts are brought to light by the figures of Table 5. The first is that more of these men are in professional work than there are engaged in unskilled labor. The second is that the group of managers, superintendents, and proprietors is practically as large as that made up of semi-skilled laborers. The third is that the mental workers constitute more than one-third of all the workers.

In the occupational distribution, as in the industrial one, we find the greatest variation in the conditions in the different cities. Table 9 shows the range in percentages and here again the 40th city in the list is in each case taken as the middle city.

TABLE 9. PER CENT OF FATHERS IN EACH OCCUPATIONAL GROUP IN CITIES HAVING RESPECTIVELY THE LOWEST, MIDDLE, AND HIGHEST PER CENTS IN EACH GROUP

Occupational group	LOWEST		MIDDLE		HIGHEST	
	City	Per cent of fathers in each group	City	Per cent of fathers in each group	City	Per cent of fathers in each group
Manual						
Unskilled	Charleston	..	Lancaster	6	S. Omaha	26
Semi-skilled	Mobile	3	Albany	18	Brockton	51
Artisans and foremen.....	Columbia	14	New Britain	40	Meriden	56
Mental						
Clerks	Chicopee	2	Pueblo	9	Columbia	28
Managers and proprietors ...	Chicopee	7	Aurora	21	Charleston	45
Professional	Trenton	1	Lancaster	4	Springfield, Mo.	10

Table 10 gives the percentages of fathers in each occupation group for each of the 78 cities. As before, where the figures for any city do not add to 100 per cent, it is because data for the "retired, not stated, or none" group have been omitted.

TABLE 10. PER CENT OF FATHERS IN EACH OCCUPATIONAL GROUP

City	PER CENT OF FATHERS IN					
	Manual occupation			Mental occupation		
	Unskilled laborers	Semi-skilled laborers and machine operatives	Artisans and foremen	Clerks and salesmen	Managers, superintendents and proprietors	Professional and financial workers
Albany, N. Y.	6	18	39	11	22	3
Amsterdam, N. Y.	6	34	30	8	17	3
Atlanta, Ga.	..	9	33	14	36	7
Auburn, N. Y.	4	11	46	6	26	6
Aurora, Ill. (East)	3	12	54	6	16	8
Aurora, Ill. (West)	5	11	46	12	21	2
Bay City, Mich.	6	25	41	8	15	5
Binghamton, N. Y.	5	19	40	12	20	4
Birmingham, Ala.	2	5	39	15	32	6
Bridgeport, Ct.	4	27	41	9	18	2
Brockton, Mass.	3	51	22	5	17	2
Canton, O.	6	23	41	7	20	3
Charleston, S. C.	..	9	23	19	45	4
Chattanooga, Tenn.	3	6	32	17	35	8
Chicopee, Mass.	6	29	54	2	7	2
Columbia, S. C.	2	14	14	28	36	7
Columbus, O.	8	16	37	11	22	5
Council Bluffs, Ia.	5	20	40	8	24	2
Danville, Ill.	10	12	47	8	19	5
Davenport, Ia.	4	17	36	11	26	3
Decatur, Ill.	4	9	48	9	22	6
Dubuque, Ia.	4	21	27	5	37	6
Elmira, N. Y.	6	15	41	13	21	5
Evansville, Ind.	4	13	47	9	21	5
Fall River, Mass.	7	46	22	6	15	2
Flint, Mich.	3	24	47	7	16	3
Galveston, Tex.	8	12	28	20	26	5
Hamilton, O.	10	12	43	6	23	4
Harrisburg, Pa.	6	22	40	12	17	3
Hazelton, Pa.	7	10	52	8	21	2
Holyoke, Mass.	3	35	35	9	14	4
Johnstown, Pa.	15	18	40	7	16	4
Joliet, Ill.	7	24	45	5	16	3
Kalamazoo, Mich.	7	23	32	11	23	3
Lancaster, Pa.	6	21	37	10	23	4
Lansing, Mich.	5	25	34	6	26	4
Lincoln, Neb.	5	11	34	20	23	7
Madison, Wis.	6	16	41	9	20	8
Manchester, N. H.	4	36	32	9	14	5
Meriden, Ct.	3	17	56	5	17	2
Mobile, Ala.	..	3	29	16	40	9
Nashville, Tenn.	1	10	38	18	25	9
New Bedford, Mass.	5	45	26	6	12	3
New Britain, Ct.	5	27	40	6	19	3

TABLE 10. PER CENT OF FATHERS IN EACH OCCUPATIONAL GROUP—(*Continued*)

City	PER CENT OF FATHERS IN					
	Manual occupation			Mental occupation		
	Unskilled laborers	Semi-skilled laborers and machine operatives	Artisans and foremen	Clerks and salesmen	Managers, superintendents and proprietors	Professional and financial workers
Newport, R. I.	6	12	38	4	33	8
Niagara Falls, N. Y.	11	26	39	5	16	4
Norfolk, Va.	1	6	36	14	36	5
Norwich, Ct.	1	23	39	6	26	5
Paterson, N. J.	3	39	31	6	18	3
Pittsfield, Mass.	7	24	36	7	23	3
Portland, Me.	5	11	41	13	26	4
Portsmouth, Va.	1	11	52	8	26	3
Pueblo, Colo. (Dist. 1)	6	14	38	9	27	6
Pueblo, Colo. (Dist. 20)	14	23	40	4	16	2
Racine, Wis.	6	22	44	5	19	3
Reading, Pa.	9	17	47	7	17	2
Richmond, Va.	3	8	45	11	27	5
Rockford, Ill.	3	16	54	8	16	3
San Diego, Cal.	5	8	33	10	32	9
Saginaw, Mich. (East)	4	19	43	20	19	1
Saginaw, Mich. (West)	5	29	38	10	16	2
Scranton, Pa.	9	16	46	9	16	3
South Bend, Ind.	3	23	40	9	22	3
South Omaha, Neb.	26	13	35	5	17	3
Springfield, Mo.	3	10	40	14	23	10
Springfield, O.	17	9	43	6	20	5
Superior, Wis	13	14	38	7	25	2
Syracuse, N. Y.	8	19	42	11	16	4
Tacoma, Wash.	7	15	41	8	24	4
Trenton, N. J.	7	27	37	7	21	1
Troy, N. Y.	7	24	38	10	20	2
Utica, N. Y.	11	21	34	7	24	3
Waterbury, Ct.	4	19	55	8	14	1
Waterloo, Ia. (West)	9	10	32	12	29	9
Williamsport, Pa.	11	24	37	8	17	4
Woonsocket, R. I.	7	40	30	7	15	1
York, Pa.	8	15	48	9	15	4
Youngstown, O.	9	18	47	9	13	4

MORE FOREIGN BORN IN MANUAL WORK; MORE AMERICANS IN MENTAL WORK

The records showed that 40 per cent of the fathers were born in foreign countries. A tabulation of their occupational records was made to see how they differed from those of the American born fathers. The results are presented in Table 11, which shows

the number in each occupational group among each 1000 fathers among the foreign and American born.

TABLE 11. OCCUPATIONAL DISTRIBUTION OF AMERICAN AND FOREIGN BORN FATHERS. RELATIVE FIGURES PER 1000 IN EACH NATIVITY GROUP

Occupational group	FATHERS	
	American	Foreign
Manual		
Unskilled laborers	41	88
Semi-skilled laborers and machine operatives	169	278
Artisans and foremen	398	374
Total manual	**608**	**740**
Mental		
Clerks and salesmen	113	60
Managers, superintendents, and proprietors	228	180
Professional and financial workers	51	20
Total mental	**392**	**260**
Grand total	**1,000**	**1,000**

The results show that the foreign born are relatively more numerous among the manual workers and the Americans among the mental ones. Nevertheless the disproportion is not so great as many would perhaps have expected.

Occupations in Different Industries

The original returns showed the occupations of the fathers in many hundreds of industries, and in order to tabulate them the data were consolidated under some 35 industrial groupings following the plan adopted by the office of the United States Census. The distribution of the men by occupational classes in each of these industrial groups is shown in Table 12 which gives the original data in some detail and again in Table 13 in which the same facts are presented in relative figures on the basis of a total of 10,000 after omitting those classified as "retired, not stated, or none." In these tables the first three columns refer to the occupations we have termed manual while the next three are those we have called mental. In the list of 35 industrial groupings those numbered from 1 to 6 are industries of extraction, numbers 7 to 20 are those of transformation, numbers 21 to 26 are industries of transportation, and numbers 27 to 31 are those of trade.

Those numbered from 32 to 35 come under the general caption of service.

TABLE 12. INDUSTRIAL AND OCCUPATIONAL DISTRIBUTION OF 22,027 FATHERS

Industrial group	FATHERS IN							Total
	Manual occupations			Mental occupations			Retired, not stated, or none	
	Unskilled laborers	Semi-skilled laborers and machine operatives	Artisans and foremen	Clerks and salesmen	Managers, superintendents and proprietors	Professional and financial workers		
1. Agriculture	38	13	7	..	286	1	15	360
2. Forestry	..	..	..	..	..	2	..	2
3. Animal husbandry	1	15	12	..	7	1	..	36
4. Mining	20	11	297	6	15	2	..	351
5. Quarrying	2	4	3	..	2	..	..	11
6. Salt, oil, and natural gas	4	1	..	..	4	..	..	9
7. Building trades	23	29	1,807	2	368	24	1	2,254
8. Chemicals and allied products	12	16	21	4	21	3	..	77
9. Clay, glass, and stone	26	77	141	4	30	1	..	279
10. Clothing	1	66	272	4	41	2	..	386
11. Food and kindred products	14	59	272	12	47	..	..	404
12. Iron and steel and their products	166	459	1,928	47	125	8	1	2,734
13. Leather and its finished products	2	169	179	6	21	..	..	377
14. Liquors and beverages	10	34	41	6	18	..	..	109
15. Lumber and its remanufacture	17	123	250	14	46	9	1	460
16. Metals and metal products other than iron and steel	7	68	203	3	18	3	..	302
17. Paper	9	88	27	8	14	..	..	146
18. Printing and bookbinding	..	7	158	19	33	25	..	242
19. Textiles	28	1,042	159	25	48	4	..	1,306
20. Miscellaneous industries	63	394	1,121	66	180	37	..	1,861
21. Water transportation	10	28	47	5	26	..	..	116
22. Road, street, and bridge transportation	40	898	153	12	95	9	..	1,207
23. Transportation by railroad	71	294	612	118	94	2	..	1,191
24. Express companies	..	5	4	18	1	..	..	28
25. Post, telegraph, and telephone	2	53	39	109	29	..	..	232

TABLE 12. INDUSTRIAL AND OCCUPATIONAL DISTRIBUTION OF 22,027 FATHERS—(*Continued*)

Industrial group	FATHERS IN							Total
	Manual occupations			Mental occupations			Retired, not stated, or none	
	Unskilled laborers	Semi-skilled laborers and machine operatives	Artisans and foremen	Clerks and salesmen	Managers, superintendents and proprietors	Professional and financial workers		
26. Other persons in transportation	..	..	..	..	..	..	..	..
27. Banking and brokerage	1	4	1	25	56	13	..	100
28. Insurance and real estate	..	..	1	12	353	1	..	367
29. Wholesale trade	22	30	31	481	226	5	1	796
30. Retail trade	24	26	42	766	1,941	13	5	2,817
31. Other persons in trade	11	3	6	13	19	3	..	55
32. Public administration	137	88	81	51	46	56	..	459
33. Public defense and maintenance of law and order	1	219	218	19	41	22	..	520
34. Professional service	..	6	6	6	15	596	2	631
35. Domestic and personal service	23	292	351	22	296	5	1	990
36. Retired, not stated, or none	520	9	9	126	10	1	137	812
Total	1,305	4,630	8,499	2,009	4,572	848	164	22,027

TABLE 13. INDUSTRIAL AND OCCUPATIONAL DISTRIBUTION OF 21,188 FATHERS. RELATIVE FIGURES ON THE BASIS OF 10,000 AFTER OMITTING THOSE CLASSIFIED AS "RETIRED, NOT STATED, OR NONE"

Industrial group	FATHERS IN						Total
	Manual occupations			Mental occupations			
	Unskilled laborers	Semi-skilled laborers and machine operatives	Artisans and foremen	Clerks and salesmen	Managers, superintendents and proprietors	Professional and financial workers	
1. Agriculture	18	6	4	..	135	..	163
2. Forestry	..	..	..	..	..	..	..
3. Animal husbandry	..	7	6	..	4	..	17
4. Mining	10	5	140	3	7	1	166
5. Quarrying	1	2	1	..	1	..	5
6. Salt, oil, and natural gas	2	..	..	..	2	..	4
7. Building trades	11	14	853	1	174	11	1,064
8. Chemicals and allied products	5	8	10	2	10	1	36
9. Clay, glass, and stone	12	37	67	2	14	..	132
10. Clothing	..	31	128	2	20	1	182
11. Food and kindred products	7	28	128	6	22	..	191
12. Iron and steel and their products	78	217	910	22	59	4	1,290
13. Leather and its finished products	1	80	84	3	10	..	178
14. Liquors and beverages	5	16	20	3	8	..	52
15. Lumber and its remanufacture	8	58	118	7	22	4	217
16. Metals and metal products other than iron and steel	4	32	96	1	9	1	143
17. Paper	4	41	13	4	7	..	69
18. Printing and bookbinding	..	3	74	9	16	12	114
19. Textiles	13	491	75	12	23	2	616
20. Miscellaneous industries	30	186	529	31	85	17	878
21. Water transportation	5	13	22	2	12	..	54
22. Road, street, and bridge transportation	19	424	72	6	45	4	570
23. Transportation by railroad	34	139	289	56	44	1	563
24. Express companies	..	2	2	9	..	..	13
25. Post, telegraph, and telephone	1	25	18	51	14	..	109
26. Other persons in transportation	..	..	..	..	..	..	..
27. Banking and brokerage	..	2	..	12	27	6	47
28. Insurance and real estate	..	..	..	6	167	..	173
29. Wholesale trade	11	14	15	227	107	2	376
30. Retail trade	11	12	20	362	916	6	1,327
31. Other persons in trade	5	1	3	6	9	1	25
32. Public administration	65	42	38	24	22	26	217
33. Public defense and maintenance of law and order	..	104	103	9	19	10	245
34. Professional service	..	3	3	3	7	281	297
35. Domestic and personal service	11	138	166	10	140	2	467
Total	371	2,181	4,007	891	2,157	393	10,000

More Workers in Retail Trade Than in Any Other Group

An inspection of the totals in Table 13 shows that a large proportion of the workers are found in a small number of industrial groups. If we rank the industrial groups according to the number of workers in each, we shall find that two industrial groups include more than one-fourth of all these men, six include more than one-half of them, and 14 include more than three-fourths. These facts are shown in Table 14, from which the group entitled, "Miscellaneous Industries" has been omitted on account of its indefinite character.

TABLE 14. FOURTEEN INDUSTRIAL GROUPS RANKED IN ORDER OF NUMBER OF FATHERS IN EACH. RELATIVE FIGURES ON BASIS OF 10,000. DERIVED FROM TABLE 13

Industrial group	Fathers in each group	Fathers in each group and preceding groups
1. Retail trade	1,327	1,327
2. Iron and steel and their products	1,290	2,617
3. Building trades	1,064	3,681
4. Textiles	616	4,297
5. Road, street and bridge transportation	570	4,867
6. Transportation by railroad	563	5,430
7. Domestic and personal service	467	5,897
8. Wholesale trade	376	6,273
9. Professional service	297	6,570
10. Public defense and maintenance of law and order	245	6,815
11. Lumber and its manufacture	217	7,032
12. Public administration	217	7,249
13. Food and kindred products	191	7,440
14. Clothing	182	7,622

By examining the totals in the last column of Table 14, it will be noted that the first two industries include 2,617 out of each 10,000 fathers, or more than one-quarter of them, the first six 5,430, or more than half of them, and the whole 14 industries 7,622, or more than three-fourths of them.

Summary

1. The investigation included 22,027 thirteen-year-old boys in 78 city school systems and the fathers of the boys.

2. The boys were scattered through all the grades of the course from the kindergarten to the last year in the high school.

3. One-half of the boys were in the sixth grade or below. They

need a common school education more than they need specialized industrial training.

4. In some cities nearly eight boys in ten were in the 7th grade or above while in others only about one boy in ten was in the seventh grade or above. What some cities have accomplished, others may hopefully strive for.

5. Only one father in six was born in the city where he now lives and only a few more than one-half of the boys were born where they now live. This has an important bearing on the proposition that the schools should shape their courses with the predominant aim of preparing the children to enter the local industries.

6. Only about one-half of the fathers are engaged in industries of the building trades and manufacturing.

7. More of the fathers are engaged in the professions than are in unskilled labor.

8. Mental workers constitute more than one-third of all the workers. This fact, and the two preceding ones, indicate the inaccuracy of the common generalization to the effect that only one child in ten in our public schools will find his life work in an intellectual occupation while the other nine are destined to do hand work.

9. Foreign born fathers are relatively more numerous among the manual workers and Americans among the mental workers, but the disproportion is not very great.

10. A large proportion of the workers are engaged in a small number of industrial groups. The most numerous single group is retail trade and in this group more than one-half are proprietors.

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